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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/973,755	10/11/2001	Masayuki Kashima	32011-175820	7139

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VENABLE, BAETJER, HOWARD AND CIVILETTI, LLP
P.O. BOX 34385
WASHINGTON, DC 20043-9998

EXAMINER

PAYNE, DAVID C

ART UNIT PAPER NUMBER

2633

DATE MAILED: 08/24/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/973,755

Applicant(s)

KASHIMA, MASAYUKI

Examiner

David C. Payne

Art Unit

2633

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 11 October 2001.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-32 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 25-29 is/are allowed.
- 6) ☒ Claim(s) 1, 4, 13 and 30 is/are rejected.
- 7) ☒ Claim(s) 2, 3, 5-13, 15-24, 31 and 32 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 11 October 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Priority

1. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1, 4, 13 and 30 rejected under 35 U.S.C. 103(a) as being unpatentable over Lomp et al. US 6,212,174 B1 (Lomp).

Regarding claim 1, Lomp disclosed

code division multiplexing signals multiplexed with code are input from a plurality of input circuits, signals of each code in the code division multiplexing signals are switched, and output to a plurality of output circuits, comprising: a plurality of despreaders provided to the number of codes corresponding to each input circuit, and capable of selecting all of the codes in the circuits; a plurality of spreaders that are supplied with signals selected by despreaders in one-to-one correspondence with themselves, and apply fixed allocation code to these signals; and a combiner that is provided on each output circuit and outputs to the output circuit by combining signals from a plurality of spreaders corresponding to this output circuit (e.g., Figure 4, 5a, 6, col./line: 1/10-15, 3/22-50, 9/35-45). Lomp does not disclose this in an

Art Unit: 2633

optical environment. It would have been obvious to one of ordinary skill in the art at the time of invention to apply the CDMA technique to the optical environment to increase transmission capacity in the system.

Regarding claim 4, Lomp disclosed

code division multiplexing signals multiplexed with K codes (K is a positive integer) are input from N input circuits (N is a positive integer) and signals of each code in the code division multiplexing signals are switched and output to N output circuits, comprising: $N \times N \times K$ despreaders that are changed over between a code-selected condition and a disconnection condition; a signal distribution section whereby the N input code division multiplexing signals from each of the input circuits are distributed and supplied to all the despreaders; $N \times K$ spreaders whose output destination output circuits are fixed and that confer fixed allocation code on the outputs from each of the despreaders; and a connection section that connects the N despreaders which have different input code division multiplexing signals with each spreader such that their output signals are combined. (e.g., Figure 4, 5a, 6, col./line: 1/10-15, 3/22-50, 9/35-45). Lomp does not disclose this in an optical environment. It would have been obvious to one of ordinary skill in the art at the time of invention to apply the CDMA technique to the optical environment to increase transmission capacity in the system.

Regarding claim 14, Lomp disclosed

An path switching device comprising: a branching section that branches and respectively

Art Unit: 2633

outputs code division multiplexing signals input from an input circuit to branched signals; a spectrum despreading section coupled with said branching section that respectively subjects said branched signals to spectrum despreading processing with spreading code respectively set from outside and respectively outputs said signals that have been subjected to spectrum despreading processing; a spreading section coupled with said spectrum despreading section that respectively performs spectrum spreading processing on said signals that have been subjected to spectrum despreading processing, with a fixed spreading code, and respectively outputs the signals that have thus been subjected to spectrum spreading processing, respectively having said fixed spreading code; and a combining section coupled with said spreading section that performs code division multiplexing on said signals that have been subjected to spectrum spreading processing and respectively outputs these to an output circuit. (e.g., Figure 4, 5a, 6, col./line: 1/10-15, 3/22-50, 9/35-45). Lomp does not disclose this in an optical environment. It would have been obvious to one of ordinary skill in the art at the time of invention to apply the CDMA technique to the optical environment to increase transmission capacity in the system.

Regarding claim 30, Lomp disclosed

code division multiplexing signal input from an input circuit into branched optical signals and respectively outputs said branched optical signals; a first intermediate stage coupler section coupled with said branching section; a spectrum despreading section coupled with the first intermediate coupler section that respectively subjects said branched optical signals to spectrum despreading processing with spreading code respectively set from outside and that

Art Unit: 2633

respectively outputs said optical signals that have been subjected to spectrum despread processing; a second intermediate stage coupler section coupled with said spectrum despread section; a spreading section coupled with said second intermediate stage coupler section that respectively subjects said optical signals that were subjected to spectrum despread processing to spectrum spreading processing with spreading code respectively set from outside and that respectively outputs said optical signals that have been subjected to spectrum spreading processing having said respective spreading codes; and a combining section coupled with said spreading section that performs code division multiplexing on said optical signals that have been subjected to spreading processing and respectively outputs these to an output circuit. (e.g., Figure 4, 5a, 6, col./line: 1/10-15, 3/22-50, 9/35-45). Lomp does not disclose this in an optical environment. It would have been obvious to one of ordinary skill in the art at the time of invention to apply the CDMA technique to the optical environment to increase transmission capacity in the system.

Allowable Subject Matter

4. Claims 2, 3, 5-13, 15-24, 31 and 32 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.
5. Claims 25-29 are allowed.

Art Unit: 2633

The following is a statement of reasons for the indication of allowable subject matter:

X nor X reasonably alone or in combination teaches or suggest:

An optical path switching device comprising: a first code switching section comprising: a front stage side branching section that branches optical code division multiplexing signals input from an input port to branched optical signals and respectively outputs said branched optical signals; a front stage side spectrum despreading section coupled with this front stage side branching section, that performs respective spectrum despreading processing on the branched optical signals with spreading code respectively set from outside and that respectively outputs optical signals subjected to spectrum despreading processing; a front stage side spreader section coupled with said front stage side spectrum despreading section, that performs respective spectrum spreading processing on said optical signals that have been subjected to spectrum despreading processing with a fixed spreading code and that respectively outputs optical signals subjected to spectrum spreading processing having these respectively fixed spreading codes; and a front stage side combining section coupled with said front stage side spreading section and that outputs the optical signals that have been subjected to spectrum spreading processing after subjecting them to code division multiplexing; and a second code switching section comprising: a rear stage side branching section coupled with said front stage side combining section and that branches optical signals that have been subjected to spectrum spreading processing input from said front stage side combining section to branched optical signals and respectively outputs said branched optical signals; a rear stage side spectrum despreading section coupled with this rear stage side branching section, that performs respective spectrum despreading processing on the branched

Art Unit: 2633

optical signals with spreading code respectively set from outside and that respectively outputs optical signals subjected to spectrum despread processing; a rear stage side spreader section coupled with said rear stage side spectrum despread processing section, that performs respective spectrum spreading processing on said optical signals that have been subjected to spectrum despread processing with a fixed spreading code and that respectively outputs optical signals subjected to spectrum spreading processing having said respectively fixed spreading codes; and a rear stage side combining section coupled with said rear stage side spreading section and that outputs to a respective output port the optical signals that have been subjected to spectrum spreading processing after subjecting them to code division multiplexing.

Art Unit: 2633


Conclusion

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to David C. Payne whose telephone number is (571) 272-3024. The examiner can normally be reached on M-F, 7a-4p.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jason Chan can be reached on (571) 272-3022. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Dcp


David C. Payne
Patent Examiner
AU 2633